



US010053740B1

(12) **United States Patent**  
**McCord et al.**

(10) **Patent No.:** **US 10,053,740 B1**

(45) **Date of Patent:** **Aug. 21, 2018**

(54) **MATERIALS AND METHODS FOR  
 DETECTING SOURCE BODY FLUIDS**

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(\*) Notice: Subject to any disclaimer, the term of this  
 patent is extended or adjusted under 35  
 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **15/921,079**

(22) Filed: **Mar. 14, 2018**

(51) **Int. Cl.**  
**C07H 21/04** (2006.01)  
**C12Q 1/68** (2018.01)  
**C12Q 1/6888** (2018.01)

(52) **U.S. Cl.**  
 CPC ..... **C12Q 1/6888** (2013.01); **C12Q 2600/154**  
 (2013.01)

(58) **Field of Classification Search**  
 None  
 See application file for complete search history.

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(57) **ABSTRACT**

The invention pertains to analyzing the levels of DNA methylation at specific genetic loci to detect specific body fluids, for example, vaginal secretions or vaginal epithelial cells, semen or sperms, saliva or buccal epithelial cells, or blood or blood cells. Particularly, the levels of methylation of DNA at the genetic loci corresponding to SEQ ID NOs: 1, 6, 11, and 16 are used to detect vaginal secretions or vaginal epithelial cells, semen or sperms, saliva or buccal epithelial cells, and blood or blood cells, respectively. The level of methylation at the specific loci can be determined by high-resolution melt analysis (HRM) or sequencing of the amplicons produced using specific primers designed to amplify the specific loci. Kits containing the primers and reagents for carrying out the methods disclosed herein are also provided.

**12 Claims, 2 Drawing Sheets**  
**(2 of 2 Drawing Sheet(s) Filed in Color)**